the lead in this direction, whose fault is it? Where do they receive their teachings? I pick up a medical journal and I find not only display advertisements on this line, but original articles from men of standing and influence, setting forth in glowing rhetoric, wonderful results obtained from "soneurol?" etc. Then, I am also informed that certain druggists, on the commercial lines of the department stores, dispense "soneurol" and "hypnotine," etc., from the same bottle.

Our waste baskets are filled daily with advertising matter in glowing colors of all sorts and kinds of remedies. When the traveling representatives of these houses make their quarterly rounds, calling on the doctors, whom do they most desire to see, the old, experienced, or the young physician? And where do they pile up their samples? I will repeat in plain words, the young men are not taking the lead. They may send a larger percentage of such prescriptions to the druggist, but the ones to blame are those who have influence and are of riper experience. What would our predecessors, the founders of the principles and practice of medicine say, were they to rise from their graves and voice their sentiments? Upon hearing their words I fear we would all hide our faces in shame.

A short time since I asked a highly respected member of our profession these two questions: Does the public have less confidence in the medical profession than formerly, and, if so, why? His answer was, "Yes! And the profession has brought it upon itself." It was our little conversation that caused me to write these few words, and if they will only have stimulus enough to cause others to exchange thoughts on this subject, I feel that from my humble effort in briefly calling the attention of the profession to a few of the facts, reform from this deplorable condition will soon come about. And for this purpose I would suggest that our journals, as well as individual members of our profession and our medical societies all over the land, will see a profound duty to perform to relieve the profession of the stigma upon it.

FLIES AS CARRIERS OF CONTAGION.*

By GEO. H. AIKEN, M. D., Fresno.

FOR a physician to have presented this subject to the medical profession twenty years ago would have been to invite ridicule and criticism, but thank God, we have made advancement since that time. While not claiming to advance anything new or startling, I do desire to call the attention of this convention to a subject, the importance of which has not received the serious consideration it deserves. Hence, in bringing this paper before you I shall have no excuses to offer, for as sanitarians no measure is so unimportant or method so trivial—the object of which is the lessening of human suffering and prevention of disease—as not to merit our serious attention, and enlist our best endeavors. While a vast deal of thought and labor have been devoted to the mosquito during the past few years—and deservedly so—regarding the transmission of disease to the human subject, methods of extermination, etc., yet I very much doubt if the evil consequences of this little insect will compare with those of the ordinary house-fly. I am also of the opinion that the medical profession has as yet but a very faint conception of the vast amount of mischief wrought by these apparently innocent little household companions; created for a wise and beneficent purpose perhaps, but a pest nevertheless, a menace to every household, and a source of real danger during their period of greatest activity, the summer months. A large mortality from typhoid fever and other contagious diseases can be charged up to the account of this little insect. Many simple wounds and abrasions have become infected with fatal termination through this medium.

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Scores of soldiers on the battlefield have received their death warrant, not from the bullet or shell of the enemy, but from this poison-laden insect. We have recently received an authentic account of numerous deaths in and about Port Arthur from the bite of a certain red-headed fly, which feeds on the decomposing corpses scattered over the battlefield. The bite of this fly is said to be immediately fatal, and beyond the possibility of recovery. The house-fly, or species of the "musca domestica," is by nature a scavenger, its nursery the dunghill, its habitat the cottage and the mansion, with a predilection for the kitchen, dining-room and privy vault. With vulgar, if not perverted tastes, its preference for food is that of filthy, decomposing, animal and vegetable matter. While making special reference to the house-fly in this paper, it is also intended to include all other species which are carriers of contagion.

If you have watched the habits of this insect, you will have noticed how quickly the purulent sputa of the consumptive and diphtheritic is devoured, while that of the healthy subject is ignored. And herein lies the danger from this filth-devouring and contagion-carrying insect.

My attention was first directed to the dangers of contagion from flies in a practical way while inspecting dairies in my official capacity as health officer. In visiting one of these on an early summer morning I chanced to be present while the milk was being areated, and here I found something which not only opened my eyes to the dangers of contagion through the medium of flies, but was also the means of bringing about reforms in this important industry. I found the milk-house well filled with flies, and glancing at the top of the areator, which was covered with cheese cloth and formed the first strainer, I beheld fifteen or twenty flies floating about in the milk taking their morning bath. On the outside of the areator and lower rim were many more enjoying an early breakfast, while in the last strainer over the large can into which the milk was being discharged, were at least fifty more dead flies whirling about and being thoroughly washed of all filth and debris.

Consider for a moment the possibilities of contagion here; warm milk, one of the best culture mediums known for bacteria, laden with flies having previously breakfasted where and on what? Supposing they had feasted on the dejecta of a typhoid patient, the sputa of diphtheria, the desquimating debris of a scarlet fever patient or the infected wound of some animal, what might and probably would have been the result? Enough poison might have been transmitted to this milk to have infected a hundred infants or others had they partaken of it. And these possibilities have been demonstrated to my entire satisfaction during the past two years. It is needless to state that we immediately commenced a warfare against flies and sought by every means possible to protect the milk from contamination. All areators were ordered screened and thoroughly protected from flies, and later dairymen were required to use sanitary milking-pails, so-called, that is, a covering of cheese cloth placed over the top of the pail, and held in place by an outer rim, thus preventing flies and debris falling into the milk and remaining there during the period of milking.

Measured by consequences, immediate and remote, I am firmly convinced that the contamination of milk through the medium of flies is one of the most frequent and dangerous sources of contagion with which we have to deal. As a result of protecting our milk product from flies there has been a perceptible decrease in diarrheal complaints among children, the mortality has been materially reduced, the bacterial count has been much lowered, and is now as readily maintained at 50,000 per cubic centimeter as formerly at 75,000 during the summer months.

My second object lesson along these lines came from inspecting slaughter-houses. On one of my rounds of inspection I found hanging in the slaughter-

house some half dozen sheep having just been killed and dressed, and on these carcasses were flies swarming so thickly as to nearly cover the entire surface. Probably a majority of these flies, not an hour before, had been feeding on the decomposing offal and filth in the stockyard. How long this meat remained in that condition I do not know, but probably for several hours. Think of the amount of filth, fly blows and possibly contagion, that was deposited on this meat soon to be used for human consumption! As a result of this experience the board of health immediately ordered that all slaughter-houses furnishing meat for the (Fresno) market should have the same screened immediately after slaughter, and thoroughly protected from flies until placed in cold storage and sold. The butchers soon informed me that it was an excellent measure as they did not need to spend so much of their valuable time digging out fly blows!

The common practice of exposing meats in our markets and on the sidewalks to contamination of flies and germ-laden dust, is a filthy, dangerous and unsanitary practice, and should be condemned. We should profit by the experience of some European cities where they place only special samples of meat in clean, well protected show windows, while the bulk is retained in screened closets or refrigerators. All dressed meats, fowl, and game of every description should be carefully protected from contamination of flies and dust from the time of slaughter until consumed.

Flies as carriers of typhoid contagion. The attention of the profession was first specially directed to this matter by experiments made during the African and Spanish-American wars. An instructive and exhaustive report was made by Vaughn and his associates following the latter relative to the dissemination of typhoid fever in camp life. It was here proven beyond controversy, and subsequently verified by others, that the house-fly is often the medium by which this specific contagion is transmitted to the human subject.

Alice Hamilton of Chicago has given us an interesting account as to the part flies may take in the propagation of this disease. She reports as follows: "The epidemic of typhoid fever in Chicago, during July, August, September and October, 1903, was most severe in the ward which, with one thirty-sixth of the city's population had over one-seventh of all the deaths from this disease. The concentration of the epidemic in this locality cannot be explained by the contamination of the drinking water, or of food, or on the grounds of ignorance and poverty of the inhabitants, for the ward does not differ in these respects from several other parts of the city. An investigation of the sanitary conditions of this region shows that many of the street sewers are too small, and that 4 per cent of the houses have sanitary plumbing. Of the remaining 52 per cent, 7 per cent have defective plumbing, 22 per cent water-closets with intermittent water supply, 11 per cent have privies connected with the sewer, but without water supply, and 12 per cent have privies with no sewer connections. The streets in which the sanitary arrangements are worst had the largest number of cases of typhoid fever during the epidemic, irrespective of the poverty of the inhabitants. Flies caught in two undrained privies, on the fences of two yards, on the walls of two houses, and in the rooms of a typhoid patient, were used to inoculate eighteen tubes, and from five of these tubes the typhoid bacillus was isolated. Her conclusions were, that when the discharges from patients with typhoid fever are left exposed in privies or yards, flies may be an important agent in the dissemination of the typhoid infection."

Contagion from privy vaults. Second only to the danger from pollution of water and milk is that of the unprotected privy vault. It is often the plague spot, the very focus of infection, especially in the rural districts, where sanitary methods are little understood or appreciated. Until very recently how little attention was paid to the disposal of the dejecta of the typhoid patient, the sputa of the diphtheritic and the tuberculotic! With what impunity the open vault in the yard, the toilet in the house, became the common dumping ground for every unwholesome, vile, decomposing material, the feeding ground and nursery of the house-fly. The privy vault in the country is seldom, if ever, placed or constructed in a sanitary manner; always open both in front and in the rear, seldom cleaned, never disinfected. With the present arrangement of the toilets on our railroad cars, in the public schools and private dwellings, they become a serious menace to the public health and one of the most frequent sources for the dissemination of contagion. As an ordinary sanitary precaution it becomes imperative that every privy vault and toilet, in public buildings and private homes, should be properly ventilated and as thoroughly screened and protected from flies as the milk-house and dining-room. In order to obtain perfect protection from flies in this particular, I am of the opinion that it will become necessary to have every opening into vault and toilet covered with a screened spring lid, as well as screened doors.

In conclusion: 1. As a pure water supply is absolutely essential to the preservation of health it should be carefully protected from every possible means of pollution.

2. Milk from the time it is drawn from the cow's udder to that of consumption, should receive the utmost care, be screened, thoroughly guarded from flies and every avenue of contagion.

3. The privy vault and toilet should be properly located and constructed, ventilated and screened, kept absolutely free from flies and all dejecta from typhoid patients and those with other contagious diseases made sterile by disinfection.

4. We should urge upon people the necessity of screening their dwellings, meat, and all articles of food from contamination by flies.

5. As manure and other filth and debris are the breeding centers for flies it should not be allowed to accumulate.

6. Special attention should be given to the cleaning of public streets and gutters and proper disposal made of this fly-breeding material.

By the strict observance of such sanitary measures a successful warfare can be waged against the pollution of water, the contamination of food and dissemination of contagion by this pernicious little insect. To this end it becomes the duty of every physician, but especially health officers and boards of health, to enlighten the public and educate the people to the dangers of contamination and contagion and the value of the strict observance of all sanitary laws.

As "Prevention" is to be our motto during the present century let us safeguard every public and private sanitary interest with a jealous care, looking to the future for the full fruition of our hopes and rewards.

ASEPTIC CATHETERIZATION OF THE URINARY PASSAGES.*

By M. KROTOSZYNER, M. D., and W. P. WILLARD, M. D., San Francisco.

IN TREATING the subject of aseptic catheterization, we must consider the sterilization of catheters, the preparation of the urinary channel, and the introduction of the instruments in an aseptic manner.

As metal catheters can easily be rendered aseptic by boiling, nothing further will be said of them. More difficult is the sterilization of flexible catheters, the majority of which in use are made either of soft or hard rubber, caoutchuc or woven cotton and silk.

The literature of the last ten years is replete with publications of experimental work on the sterilization and preservation of these instruments. Aside from boiling, most of the methods recommended by various authors require expensive and complicated apparatus, which to the average practitioner are not available, and are out of the question for patients' use. We therefore conducted our experiments with the view of finding the simplest method of sterilization with the least impairment of the instrument. During our work we found that instruments infected with colon

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